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ON THE
IMMEDIATE AND REMOTE EFFECTS
OF
EMMET'S OPERATION.

BY
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ON THE IMMEDIATE AND REMOTE EFFECTS OF EMMET'S OPERATION.

MR. CHAIRMAN AND GENTLEMEN :

The title of this paper indicates the desire of its writer to draw attention to some of the immediate and remote effects of trachelorrhaphy. There is so little to be found in our gynecological literature upon these subjects, it occurred to me that a collection of the combined experiences of a number of our prominent gynecologists might possess much interest as well as value, and aid somewhat in the settlement of some of the points in regard to the effects of this operation, which have been raised abroad and at home within the past year.

Perhaps I may be pardoned for a digression, a moment, in reference to the name of this operation. Emmet, its justly celebrated author, described it as an operation for the restoration of a lacerated cervix uteri, in his first paper, read before the Medical Society of the County of New York, in February, 1869. In his second paper, read before the same Society in September, 1874, he retains the same name.

Dr. E. C. Dudley, of Chicago, was the first to give it the name of trachelorrhaphy (*New York Medical Journal*, January, 1878).

Dr. Paul F. Mundé (*American Journal of Obstetrics*, January, 1879), in his excellent article on the indications for the operation, desirous of being more exact and explicit, named it hysterio-trachelorrhaphy. Dr. Emmet remarks (see second edition of his work, p. 450): "It would be but human nature for the uninitiated to dread the severity of an operation so termed, and I should prefer to use the English expression." The editor of the *Medical News* calls it tracheloplasty in a recent editorial.

I wish to propose that we should, in simple justice to its great originator, speak and write of this operation—which Thomas, Marion Sims, Fordyce Barker, Goodell, Howard, Jenks and others have spoken of as one of the most important contributions which have been made to gynecology (within a quarter of a century, Thomas)—as *Emmet's operation*. There are many examples familiar to us all where less valuable contributions to medicine or surgery have been subsequently known by the distinguished name first to describe, propose, or perform it. Thus we have Graves' disease, Basedow's disease, Bright's disease; we also have Syme's operation, Chopart's operation, Sympton's and Sims' operation, on the cervix; and more recently Bigelow's operation, Battey's operation, Poro's and now Tait's operation. And why not, when speaking of an operation which is performed more frequently, perhaps, than all these others combined, and which has been productive of so much good—why not call this surgical procedure after the

name of its eminent author, and say Emmet's operation? Jenks writes me from Chicago that he intends to drop trachelorrhaphy in the future, and in writing or speaking say Emmet's operation.

The importance of the operation—Emmet's mode of performing it—and the various modifications of his originally-described plan of procedure, have all been voluminously written up. Its indications, its preparatory and after-treatment, have been discussed in the more recent text-books, and in nearly every medical journal and society in the country, until all questions in regard to it seem in a fair way to be definitely settled.

Upon its more remote effects, however, there has been very little evidence recorded. The inquiry has arisen in many minds, what is or will be the condition of the uterus, say one, five or ten years after a laceration has been successfully restored by Emmet's plan? Only here and there has any record been made of facts which would enable us to give an intelligent answer to this question. Our efforts to defend the operation against the attacks of those who would charge evil against it, upon what is called negative evidence, have been somewhat crippled by our inability to point to recorded facts showing the after-effects of trachelorrhaphy, whether for good or evil.

Thus one writer searched the records in the great library of the Surgeon-General's office and immediately writes to the *American Journal of Obstetrics* (January, 1883) that "he has endeavored to collect all the cases where, after the operation for laceration of the cervix conception took place and the condition of the parts after delivery were noted." "Fancy my astonishment," he says, "to find throughout all the literature of the Surgeon-General's office touching this particular point, *eleven cases only recorded*."

He then quotes these eleven cases from the various reports, to which he adds three of his own, making fourteen in all, and refers to the fact that Goodell had only reported four cases out of 113 operations, where he had known pregnancy to follow the operation, and then jumps to the astonishing conclusion, which he says "is deducible from the statistics furnished, that repair of laceration of the cervix uteri is usually followed by sterility." The inference being that it was caused by the operation. He also states from similar evidence as his second conclusion, also "deducible from the statistics furnished," that the character of the labor is unusually severe and protracted, and that in a large percentage, laceration occurs a second time."

Our English cousins, Tilt and Savage more especially, have criticised Emmet's operation with much



sharpness, displaying in their discussion of the subject as much ignorance of our literature as of the proper limitations of the operation," as pointed out in an able paper of Dr. Charles Carrol Lee, of New York. (See *New York Medical Journal*, Sept., 1881.)

As Dr. Howard,¹ of Baltimore, and Jenks,² of Chicago have ably answered the criticisms and unfair strictures of these gentlemen, I will not occupy your time with that branch of the subject, but keep to its immediate and remote effects.

If this surgical procedure, which has received the endorsement of all good gynecologists the world over, who have properly tested its merits, is followed by sterility as a necessary consequence, or, if it is the cause of severe and protracted labors as claimed, and if re-laceration occurs from any reason fairly traceable to the operation itself, I thought such facts should be placed on record, as a warning to this and future generations, together with additional facts relating to the occurrence of primary and secondary hæmorrhage, cellulitis, peritonitis or death, and the proportion of cases stated in which these accidents occur. Many have regarded this as one of the safest and most universally successful operations in surgery.

In order to learn these facts I addressed letters to

¹ Report of the Sections of Obstetrics and Gynecology to the Medical and Chirurgical Faculty of the State of Maryland, pp. 1; 10, 1883.

² Contributions to Surgical Gynecology, by E. W. Jenks in 1882. Transactions Illinois State Medical Society, vol. xxxii.

a number of gynecologists, asking for information upon these topics, with the statement that I desired to place their replies upon record for the purpose of supplying the missing link, so to speak, in the history of this subject. In my letters of inquiry I requested information upon the following points:

1. Number of operations performed.
2. Number of times pregnancy has followed the operation.
3. Character of the labor. Whether unusually severe, protracted or natural.
4. In what percentage of cases did re-laceration occur. Whether in the same place or on the opposite side.
5. Have any of your operations been followed by secondary hæmorrhage, pelvic cellulitis or death?

I have made a table of the replies of twenty-six gynecologists which I herewith present to the Section. It is impossible to do justice to my correspondents by so condensing their replies as to simply fill up the blank spaces in a table covering the points upon which I made inquiry.

In some instances a letter of six or eight pages does not give the information desired in such form as to be fairly expressed by figures, and I shall be compelled therefore in justice to them and the subject, as well as to you, to read extracts from their replies relating to certain facts or figures, as an appendix to my paper.

NAME OF OPERATOR.	NO. OPERATIONS.	NO. OF PREGNANCIES.	CHARACTER OF LABOR.	CASES OF HÆMORRHAGE.	OF CELLULITIS.	PERITONITIS.	DEATH.	RELACERATION.
Emmet.....	About 600	Often.	.....	3	Several.	..	0	3
Thomas.....	In last three years in his Sanitarium alone	Often.	See Letter.	..	..	..	0	..
Goodell.....	102	A few.	Normal.	3	Very rare.	Very rare.	3	3
Berlin.....	211	Has never happened to attend a patient who had been operated upon.	.....	..	..	..	0	..
Scott.....	125	Frequently.	Not Severe.	A few.	A few.	0	0	Some.
Chadwick.....	12	1	.....	0	0	0	0	..
Byford.....	Over 50	Only knows of 3	Does not practice obstetrics. Thinks the operation cures sterility.	..	..	..	..	..
Jackson.....	118	9	4 natural. Don't know about others.	4	3	0	0	Don't know of any.
Smith.....	See letter.	4	.....	..	..	..	..	..
Mann.....	Over 50	4	O. K.	..	3	0	0	0
Baker.....	250	Several.	.....	0	0	0	0	5
Reamy.....	Above 200	Several.	2 tedious.	0	3	1	0	0
Mundé.....	137	13	Nothing unusual.	2	..	2	2	About 20 per cent.
Jenks.....	150	.....	Knows of no difference.	1	1	0	0	0
Lusk.....	300	Common occurrence.	Not severe.	0	Some slight cases.	..	1	Common.
Wilson.....	100	Knows of 4	2 were natural.	0	0	0	0	1
Skene.....	About 300	Knows of a considerable number.	Several natural; rest unknown.	Few slight.	0	0	0	Don't know of any.
Lee.....	Over 100	12	1 protracted; 11 natural.	2	Several.	..	1 pp.	1
Sutton.....	About 60	Some.	.....	0	0	0	0	0
Van de Warker.....	Over 100	20 per cent.	.....	0	0	0	0	One-half.
Johnson.....	18	3	Not yet delivered.	1	1	1	0	0
Broomall.....	63	1	Tedious.	0	0	0	0	Slight on one side; operated on both sides.
Richardson.....	17	3	Normal.	0	0	0	0	2
Engleman.....	See letter.	.....	.....	0	0	0	0	..
Howard.....	A great many.	Several.	Can't say.	0	0	0	0	..
Total.....	2,311	57	.....	.....	.....	.....	.....	.....

Thus, for example, Dr. Emmet states that he has known pregnancy to occur often, but as he does not practice obstetrics, he is unable to state the character of the labors following. This statement is the rule rather than the exception in the answers to my letters of inquiry. The necessity for more full extracts than could be expressed in a table becomes obvious.

Most gynecologists are not practicing obstetrics, and consequently do not know of their own knowledge the ultimate effects of their work. As they do not follow up their cases, in most instances, they cannot say how often women upon whom they have operated have become pregnant, or state the character of their labors.

Emmet and Goodell both express the opinion that the preventive measures adopted to prevent conception are largely the cause of the apparent sterility following trachelorrhaphy, and Emmet states that after much careful thought he does not believe that the operation has anything to do with producing sterility when it is properly performed, and yet if we relied upon cool statistics to prove this, we should fail, as both these distinguished gentlemen after about eight hundred operations report less than a dozen cases of pregnancy following of their own knowledge. Those who take the opposite side of the question will utterly fail to establish their points by simple reference to statistical tables; while unexplained figures would seem to aid them, the subjoined letters clearly show the correctness of my position. We must of necessity then look elsewhere than in statistical tables for the true explanation of the implied sterility.

It is apparent that a majority of the cases have been operated on in charity hospitals and in consultation practice, and when patients are discharged cured, they have passed entirely from observation, and their subsequent histories are unknown. It is not logical reasoning, therefore, to argue that *because* they are not known to have borne children, they were *therefore* sterile, and made so by the operation. In the replies to my inquiries this point, I think, is made emphatic. It also appears that as many women are past forty when they apply for treatment, they have already reached an age when they are not likely to become pregnant, and furthermore that as they have gone through so much suffering, the result of childbirth, before obtaining relief, in many instances they are known to have used precautions against future conceptions. It frequently happens also that the operation is performed on widows. I have operated upon several of this class. It cannot be claimed that their "sterility" has been produced by the operation.

So many women have borne children who have sustained the injury under discussion, that it cannot be honestly claimed that they were sterile before the operation. Those who claim that the operation causes sterility should not operate upon any women wishing to have more children, unless they hold with Murphy the erroneous opinion of a previously induced barrenness, and believe, therefore, that trachelorrhaphy could not add to the existing trouble.

It is thus manifestly incorrect as well as unfair to judge the question of apparent sterility by purely sta-

tistical evidence. One cannot properly say that all women not known to have conceived after this operation were made sterile by the operation, and argue from such premises against the propriety of its future performance. I have presented evidence from hitherto unpublished sources of more than 100 cases of pregnancy following Emmet's operation, and that the labors have not been unnatural, and re-laceration was a surprisingly rare occurrence. If re-laceration *were* to occur upon the opposite or same side, I fail to see why, if the indications for the operation were prominent and unmistakable, it should not have been performed and the patient relieved from present suffering and future danger. If it should tear out, it could be easily sewed up again.

If a patient requires perineorrhaphy for her safety or comfort, no gynecologist, it occurs to me, would refuse to operate for fear of a possible re-laceration of the perinæum in some future labor. The surgeon's duty is to relieve present ills, and not stay his hand for fear of those he knows not of.

It should be taken into account also that Emmet's operation, as all other operations in surgery, may be improperly and unskilfully done. It is undoubtedly true, as stated by me in a recent paper,¹ "that errors in judgment *would* occur, and disrepute be brought upon a very valuable operation by its unwise, unskilful and too frequent repetition." I have no doubt but this operation is resorted to more frequently than is required, but this occurs in the history of all new operations. Sufficient opposition is thereby elicited to finally confine it within its "proper limitations." Emmet has stated that he now performs it only once where he formerly did it ten times. He finds that by curing an existing endometritis and cellulitis the tissues which had rolled out and produced an ectropion, giving the appearance of a considerable laceration, are curable by appropriate treatment, and an operation becomes unnecessary.

There are conditions, however, of catarrh of the cervical mucous membrane, which Van de Warker claims are cured better by the operation than by any other means. If any catarrhal endocervicitis remains afterwards, he claims that he has rendered it more amenable to treatment. I learned from him that it was unnecessary to wait for the cure of this condition by a long, frequently unsuccessful, and always troublesome and expensive course of treatment, but that it was better to proceed at once, where an operation is required. In stating this point in a former paper, it appeared as if I had "always" held this view, and that my friend had recently confirmed it in an article in the *American Journal of Obstetrics*, July, 1883. I desire to state that I was following *his* lead, and that the priority in this new departure belongs entirely to him.

When a surgeon cuts away too much of the tissues of the cervix, thereby destroying its future distatability, to a certain extent, or leaves too little undenuded tissue for the new cervical canal, in a bi-lateral laceration, thus producing a veritable stenosis, or sews up the entire cervix, leaving no canal whatever

¹ On the Importance of Trachelorrhaphy, January, 1884.

—as I am informed has occurred—the blame should be placed where it belongs.

The fault lies not in the operation, but in the bungling and careless hand which performs it.

Howard says, in the article already referred to, and his language I now adopt, "that favorable results have not always been attained by trachelorrhaphy, is nothing more than what we occasionally witness in respect to other operations, alike in general and special surgery, although universally approved and practiced. Alternately favorable and unfavorable results from trachelorrhaphy arise from several causes.

1st. The conditions and indications for the operation have not been clearly defined, or else disregarded.

2nd. Proper preparatory treatment has been overlooked or inefficiently conducted.

3rd. The operation has been, from inexperience, or want of dexterity, clumsily done. Some persons can never perform a delicate or serious operation, and whenever they attempt it, they remind one of a bear-dance or elephant-waltz in a travelling menagerie. This is especially true of plastic operations."

I think the feeling has prevailed among the people, and to some extent among physicians, that the cervix is so liable to re-laceration in subsequent labors that the operation should therefore not be performed until after the menopause. In reference to this subject, I would venture to express the belief that the cervix is just as liable to laceration after the operation as before, and no more. The frequency of cervical laceration has been placed as high as one in every six women confined, by so excellent an observer as Goodell. Emmet places the percentage at 33; Mundé, 22; Pallen, 45. The line of union is so perfect in successful cases, that Hunter states (*American Journ. of Obstet.*, Jan., 1883, p. 69) that a few months after restoring a lacerated cervix, he could not determine by the touch, where the injury had been. The tissues seemed to be no harder than the surrounding tissue. I can confirm this statement after many examinations. As the new tissue is not inelastic, the dilatibility of the restored cervix is not impaired, and no tendency to re-laceration therefore exists. Dr. Hunter, in same journal, p. 68, states that he delivered a woman in June last, on whom he had performed an operation for a severe laceration of the cervix, and also for a complete laceration of the perinæum. The child was born at full term and weighed over seven pounds. Neither the cervix nor the perinæum gave way. This was only one of several which he had seen in which no injury was done the repaired laceration at subsequent labors.

In the same discussion, Dr. Skene stated "that he had seen several cases of successful delivery without further injury after operations for laceration of the cervix."

Dr. A. S. Clarke in same discussion remarked that "about five years ago, he assisted Dr. Skene in restoring a cervix badly lacerated bilaterally, and he was sent for in June last, to deliver the same woman; but when he arrived the child was born, labor having been very rapid. The child weighed ten pounds. There was no laceration."

The cause of the re-laceration when it does occur is supposed by some to reside in the hardened cicatricial tissue said to remain after the operation. But Hunter and others have shown that none is found a few months afterwards, and even if there were, it is difficult to understand, from the location it must occupy, how it could interfere with dilatation.

If it were circular, it would do so, whenever present, but being lengthwise, could not interfere much, if any, and Clarke says, in reference to the rapid birth of this ten-pound child, that "if any cicatricial tissue from the old operation had been present, he thought it certainly would have given way." Dr. Hanks stated that he had delivered several women whose lacerated cervixes he had sewed up, without any injury resulting. As bearing upon the supposed presence and influence of cicatricial tissue, in causing protracted labor, and re-lacerations, I ask attention to the following remarks of Dr. C. C. Lee (same discussion): "Two years ago, Dr. Lee performed an operation in the Woman's Hospital on a patient who had a very extensive double laceration of the cervix, so that very little of the true cervical tissue remained after its repair. An excellent result was obtained. He was particularly interested in the case, as the laceration had been so extensive, and she was a young woman, and expected to bear more children." She was subsequently attended in a confinement by his associate, Dr. Swasey, who reported "that no laceration whatever had occurred." "Dr. Lee examined her very carefully afterward himself, drawing down the cervix with the tenaculum, but he was unable to find any laceration." Dr. M. A. Pallen stated that "with regard to subsequent delivery, without injury, after operation on the cervix, he had met with several such cases—at least half a dozen in his own experience. Some patients he attended in two subsequent labors, and no laceration took place. Last year he closed a double laceration of the cervix, and in July last attended the patient in labor. No laceration occurred either of the cervix or of the perinæum, both of which he had operated on for laceration."

In the *New York Medical Journal*, Vol. xxxviii, 1883, p. 48, a discussion in the Philadelphia Obstetrical Society is recorded, in which twenty cases of pregnancy following operations by Drs. Baer, Gittings, Goodell, Montgomery and others. In nearly all the cases a normal labor occurred, unaccompanied by re-laceration.

There are some facts to prove that this is not so universally safe an operation as many have supposed it to be. While my question in regard to the occurrence of pelvic cellulitis and peritonitis was answered by eight correspondents in the negative, four report eight cases, and six say they have had "several" or "a few" cases each, and eight do not reply to the question at all.

Drs. Emmet, Scott of San Francisco, and others, say that where it has occurred, it has generally been traceable to some error in the operation, such, for example, as failure to entirely cure an existing chronic cellulitis, so that when the uterus was drawn down to the vulva, the over-stretched tissues became irritated

and an acute attack resulted. Seventeen cases of hæmorrhage are reported—one fatal case and several not yielding to ordinary means, including styptics and the tampon. Sutures had to be introduced beneath and around the bleeding vessels before the hæmorrhage could be controlled.

Seven deaths resulting immediately from the operation are reported, and I have heard incidentally of three others not included in this table, but within the knowledge of some of the writers—making ten in three thousand cases; that is, three and one-third to a thousand, or about one-third of one per cent. if we include the ten cases—three deaths occurred in the practice of one man, and he so good an operator as Goodell, as set forth in the table already reported.

I think I have proved, from the best of testimony, that Emmet's operation does not cause sterility when properly performed, that re-laceration is no more prone to occur after the operation than before, and that severe or protracted labors do not follow as a consequence; that it is not without its dangers, ten deaths occurring in a little over 3,000 cases, besides a number of instances of hæmorrhage and cellulitis not fatal. I believe the cervix is operated on in many cases which might have been cured by proper treatment; and I believe also that the operation, when properly performed and clearly indicated, is one of the greatest improvements of the age.

APPENDIX.

89 MADISON AVENUE,
NEW YORK, March 8, 1884. }

DR. J. T. JOHNSON, WASHINGTON, D. C.:

Dear Doctor:—I wish I knew how many times I have operated for closing a lacerated cervix—certainly not less than 500 or 600 times in the past twenty-two years. I have never regretted doing the operation, and have often wished that I had performed it. I believe that I have kept many a woman out of the lunatic asylum, and saved many a life from phthisis. I have never lost a patient from or after the operation. Quite a number have had more or less cellulitis after the operation, which could generally be traced to some imprudence or to error in judgment on my part in operating before the case was properly prepared. I have known of three cases where serious hæmorrhage has occurred after the operation—one in my private hospital, where oozing went on for several hours after the operation, and was stopped by a deeper stitch, a recent case in my service at the Woman's Hospital, coming on about two weeks after the operation. It was a very serious case, and was stopped with difficulty by the use of the tampon. The third case was in Dr. Pallen's practice several years ago, when the bleeding had been going on for some two days after the operation, and the woman was very nearly losing her life. I was called in, and stopped the bleeding by untwisting the sutures and introducing another lower down. I do not believe the operation has anything to do

with causing sterility. When a woman has remained sterile afterward, it has been due to the existing cellulitis, or to the damage done by the previous inflammation including the tubes. I take great care in preparing my cases for the operation, and pregnancy has occurred so often after I have operated, that I am fully convinced my view is correct. I do not recollect of more than three or four cases having returned with a second laceration, and have examined a large number of old patients where a fresh laceration did not occur, and some have borne a number of children after the operation. I only wish I had the data to give you, but I have been too busy a man to keep them, and can only give my impressions.

In writing on this subject you may do much to correct the general abuse into which the practice of the operation has fallen. Everybody is performing it, and very few are doing it with any purpose except to close a fissure. The operation should never be done without there are marked symptoms calling for it, and the case should be properly prepared before it is done; for until the cellulitis has been removed, which causes the parts to roll out, it is impossible to decide, except in a very few cases, if the operation is needed or not. A large fissure will sometimes disappear as the parts roll in again, as the cellulitis clears up. Where there are marked reflex symptoms, very few clear out properly the dense tissue from the angles, and I operate on a large number of cases with marked benefit when the operation has already been done by some one else and the patient had been disappointed in the result. I wish you all success.

Yours very truly,
T. A. EMMET.

294 FIFTH AVENUE, March 13.

My Dear Doctor:—I regard trachelorrhaphy as one of the most important advances that have been made in gynæcology within a quarter of a century. After the closure of a lacerated cervix I have often found pregnancy to result where sterility existed before. On the other hand sterility is produced by it in some cases where the cervix has been sewn so tightly that it is impossible to pass even a uterine probe.

I am sorry that I have no statistics to give you of the operations I have performed either in the Woman's Hospital or in private practice. You can form some idea of the frequency with which I perform trachelorrhaphy when I tell you that in my sanitarium which was opened three years ago, I have done the operation one hundred and two (102) times. As to my other cases I have kept no record. In a word I regard trachelorrhaphy as an operation of extreme value, but an operation that is often performed where there is no real necessity for it.

I am very glad you have taken up such an important topic, and regret that I cannot give you more information.

Yours sincerely,
T. G. THOMAS.

47 E. THIRTY-FOURTH STREET, }
NEW YORK CITY. }

Dear Doctor:—I have performed trachelorrhaphy

between 200 and 300 times. I have no statistics showing the frequency with which the operation has been followed by pregnancy, but know that it is of common occurrence. Labor in such cases has not proved unusually severe. I should say that re-laceration was a pretty common event, though of course not a necessary consequence of the operation.

I have had one case of secondary hæmorrhage in the hospital, but never in private practice. I have seen slight attacks of cellulitis occasionally follow the operation. I have had one fatal case. This occurred at the hospital. I had left my operating bag at home, and tried to shift with instruments from the hospital drawer. I have no doubt that the knife used had not been properly cleaned. At any rate lymphangitis started from the wound and death followed.

Very truly yours,

W. T. LUSK.

280 W. FOURTH STREET,
CINCINNATI, March 11, 1884. }

My Dear Doctor:—I have operated about 200 times. So far as I have been able to discover, sterility has not resulted from the operation. In a good per cent. of the cases sterility was cured, not in all. I have attended several of my cases in subsequent labors.

In two cases dilatation was tedious but ultimately complete. In the others dilatation was natural. In no case did re-laceration occur.

So far as I have been able to learn, other physicians who have attended during labor, cases upon whom I had made the operation, have had similar experiences.

The operation can be, and doubtless has been, greatly abused. But confined to appropriate cases and carefully done, it is in my judgment one of inestimable value.

In 1876 I adopted the method of allowing free bleeding from the cervical vessels during the cutting stages of the operation, which not only greatly facilitates the more perfect co-aptation of the edges, but renders the introduction of the needle easy.

Of still greater value is this bleeding in reducing the congested and hypertrophied cervix.

Very truly yours,

THAD. A. REAMY.

CHICAGO, March 6, 1884.

Dear Doctor:—Your letter in reference to trachelorrhaphy is received. I have probably operated over fifty times. The immediate results have been fairly good; but I have not been able to follow up my cases so as to collect facts relevant to the points which you are investigating. I do not practice obstetrics. This may be one reason why I have not been able to get information such as you desire. I have in mind, though, three cases of recent date which have been succeeded by pregnancy. I have gotten the impression, without any definite data upon the subject, that the operation, when required, restores fertility instead of impairing it.

I am very respectfully yours,

W. H. BYFORD.

PHILADELPHIA, March 13, 1884.

Dear Dr. Johnson:—I have operated on two hundred and eleven (211) cases of laceration of the cervix uteri.

As I am not engaged in general practice, and do not attend obstetrical cases except as a consultant, I cannot keep track of cases in which pregnancy occurred after the operation. My opinion is that pregnancy would have happened more frequently in some of my cases, were it not that, for fear of a second laceration, preventive measures were probably resorted to.

No unusual difficulty occurred in the labor of those who became pregnant. In three the cervix was again torn, but in only one was the rent bad enough to need a second operation. The tear originally was a bilateral one, but this time the left side alone gave way.

Three of my cases were followed by secondary hæmorrhage, which was controlled by a sponge tampon. This did not at all interfere with primary union, which was excellent in all. The woman in every instance was fat and plethoric.

I have lost two cases, both of them in hospital practice. One died suddenly from heart-clot on the fifth day after the operation on a cervix with supravaginal elongation. The other, immediately after the operation, inexplicably became comatose, and after lingering in that condition for several days, died. The autopsy revealed a syphilitic gummy tumor of the brain. Neither of these had any fever or any inflammation whatever. A third death ought perhaps to be reported, which occurred in my private practice; but it was in a case in which both cervix and perinæum were restored in one operation. The lady was delicate, the operation a prolonged one, and followed by excessive vomiting which lasted for several days. She died very suddenly on the fifth day with symptoms of embolism. This very unfortunate result has made me chary of performing both operations at one sitting.

On very rare occasions I have had pelvic peritonitis and cellulitis to follow the operation, but this occurred only in cases treated at a general hospital; never in cases operated on at their own homes or in my private hospital. All these cases recovered, and with perfect union of the wound. One of them, however, ended in an abscess, but the occupant of the bed next to hers broke out with erysipelas a few hours after she had been operated upon.

I deem the operation of trachelorrhaphy to be a most valuable one—one for which I feel under lasting obligations to Dr. Emmet. Yet I cannot but think that it is performed altogether too frequently.

Very respectfully yours,

WM. GOODELL.

Dr. James R. Chadwick, of Boston, writes me that he "believes the operation to be an improvement upon previous treatment of such cases in a very limited number of extreme cases. My cases which have not been operated upon have borne more children than those operated upon."

Dr. Skene says "in a general way he believes the

operations tend to cure sterility instead of producing it, by restoring the womb to a natural physiological condition capable of going through the period of child-bearing in a healthy instead of a morbid condition."

Dr. Skene thinks his method of operating a great improvement on Emmet's plan and much more rapid. [See American edition Holmes' Surgery, vol. ii, p. 1014.] He "seldom takes more than thirty minutes for the operation, and in a recent case of bi-lateral laceration in which he operated with a perfect result, inserting six sutures, the time of operation by the watch in the hand of his assistant Dr. Thallon, was ten minutes and thirty seconds. Most of his cases of cervix alone stand the operation without anæsthesia."

Dr. Edward W. Jenks, LL.D., of Chicago, writes me that "I have performed many operations for laceration of the cervix uteri from and in various parts of the country, and hence my inability to say what effect the operation may have had on subsequent labors. * * * I have not known of a single case of sterility in consequence. One case came under my observation where the operation had been improperly done, or rather too much had been done by the surgeon, as the cervical canal almost to the os-internum was closed, and to the left margin of it there was an opening that barely admitted a very small probe. The patient was not relieved of any trouble for which the operation had been performed and was sterile until I opened the closed canal, after which she was entirely cured of her nervous trouble and soon became pregnant, and had an easy labor at full term without any re-laceration. I have been unable to hear of any instance of severe or protracted labor consequent upon operations I have performed for lacerated cervixes."

Dr. William H. Baker, of Boston, says in reply that "I have no time to be exact, but I will say that I have operated quite a number of times, perhaps 250, and I am glad to state that I cured sterility instead of producing it. Several of my cases have been confined since and re-laceration occurred in five or six cases. I believe the operation one of the greatest improvements of the age" (entire letter).

Dr. Engleman, of St. Louis, endorses most heartily Dr. Baker's letter, says "he has never produced sterility by the operation, but on the contrary has cured it."

Dr. M. D. Mann, of Buffalo, after giving me the figures stated in the table, agrees with Dr. Baker that "the operation is one of the greatest improvements of the age," and adds, "I think one reason why pregnancy does not oftener follow is that many of the women are in the forties, an age when pregnancy does not occur so frequently."

Dr. Albert H. Smith writes: " * * * I have done so many of the cases in the Lying-in Charity Hospital, and so many in consultation in other men's practice, of which I have kept no histories, that it will be impossible to give you a full statement. * * * I am against the theory as to the resulting sterility. Three weeks ago I attended in *one week three women* at full

term, and one miscarriage in patients *on whom I had performed trachelorrhaphy.*"

Dr. A. Reeves Jackson, of Chicago, writes me: "I know of only nine cases out of 118 operations where pregnancy has taken place. Although as many of my patients have come from distant localities, and I have heard nothing from them since, I would regard any estimate based upon such data as quite or almost useless."

"In four cases of the nine in which pregnancy followed the operation, there was no re-laceration; of the others I have no information. I do not doubt that a laceration sufficiently extensive to produce erosion of the cervical lining or enlargement of nabothian glands or endometritis, is a cause of sterility, and that the removal of those conditions by trachelorrhaphy in such cases would be the quickest and surest means of curing the barrenness."

"Dr. Paul F. Mundé, of New York, writes me on the 24th of April that out of 137 operations he has known of thirteen cases which were followed by pregnancy, and says he does not believe the operation has any effect in the causation of sterility, and that it has no injurious effect whatever upon labor. Cannot give exact figures in regard to the percentage of cases of re-laceration, but it does not occur, as a rule, any more frequently than it does in first labors. If it occurs, thinks it is usually in same place."

"The explanation of the small number of pregnancies known to me as following operations performed by me, is found in the fact that the cases were brought to me as a specialist by other physicians, and were never again seen by me. I have no doubt that pregnancy occurred after the operations quite as frequently as it does under ordinary physiological conditions."

So far as known to me, the character of labors following trachelorrhaphy have exhibited nothing unusual. Thinks about 20 per cent. suffer re-laceration in subsequent labors. Dr. Mundé thoroughly concurs with those who regard this operation as one of the greatest improvements of the age. Thinks "it cures sterility instead of producing it," from his own sufficiently large experience."

Dr. Fanny Berlin, of Boston, writes 4th of April that she has performed the operation more than fifty times, but has never had one return pregnant, "yet she is not prepared to say the operation produced sterility"

1st. "Because many of those operated on had passed the time of child-bearing—in fact the majority had."

2nd. "Many do not wish to conceive again, and use means to prevent conception."

Extracts from a letter of Dr. John Scott, of San Francisco: "I have performed the operation 125 times. Not being engaged in obstetric practice, I cannot state how often pregnancy has followed, but I have known of its occurrence so frequently after the operation when the woman had not conceived for two and more years, that I regard it as a frequent cure for sterility."

"I have heard that the labors were not severe or in any way rendered more difficult by the opera-

tion, except in two or three cases where sufficient os was not left after healing, and then the delay was only temporary.

"Not being engaged in midwifery practice, my answer to this query is valueless. I have, however, known of re-laceration taking place in some of my early cases, but I believe it was owing to the operation having been done improperly. * * * Simple as the operation appears, I look on it as most difficult to perform well, and its success depends largely upon its being thoroughly well done.

"I agree with you in considering the operation one of the most invaluable ever invented and entitling its author to the gratitude of the profession and the public."

Extracts from letter of Dr. H. P. C. Wilson, of Baltimore: " * * * No operation in Gynecology has given me more satisfactory results than Emmet's operation on the cervix * * * I cannot recall a single case in which I have reason to think sterility has been produced. I can recall a case where pregnancy occurred three months after the operation, the woman not having been pregnant for 12 years previously. The woman had been in wretched health for several years before the operation. She was safely delivered of a fine child without any laceration and is now in good health. * * * No unpleasant results have followed any of my operations. I believe it is one of the safest operations in surgery. I have kept very imperfect notes of my cases and a great many have not been noted at all, but if I had time to look over those I have, I am sure I would be able to give you many more cases in which I have cured sterility by this operation. I have never had cause to regret having performed this operation, nor am I aware that any of my patients ever regretted having it done."

Dr. R. Stansbury Sutton, of Pittsburgh, closes his letter as follows:

"I believe that in cases where the laceration is very slight, to all appearances, often cicatricial tissue in the cleft is acting as a neuroma and in such cases I have had good results—relieving general nervous disturbance.

"I have modified the operation of Emmet in this—I never use silver sutures. In my first 40 operations I did, but for a year have used only "Salmon gut" sutures—*never cutting them short* but leaving them to hang from the vagina—to act as a drain—and to make it an *absolutely painless and easy operation*, to remove them at the end of a week. Nothing would induce me to again adopt silver sutures in cervix surgery."

Extracts from letter of Dr. Wm. T. Howard, of Baltimore. "1st, I can say little on the influence of Trachelorrhaphy in causing sterility or in curing it. In an immense majority of my cases I have never heard of them afterwards, as about two thirds of all my operations are on persons from a distance. It seems to me, however, that this matter is not likely ever to be decided. For it depends entirely on whether the operation is well or badly done. I have long been of the opinion that of all the operations done in gynecology, this is oftenest badly done.

"If well done—if the os externum is well made—not too small and a sufficiently large undenuded track

is left, for the cervical canal, the operation cannot possibly interfere with the migratory habits of the spermatazoa—and as a lacerated cervix is one of the most prolific causes of a copious irritating leucorrhœa which dear Sims proved kills the Spermatazoa in numerous instances, it follows of necessity that trachelorrhaphy ought often to cure sterility where well done.

"2nd, In regard to the effects of trachelorrhaphy on labor my experience is small, since I have for years been drawing away from obstetrics—and most of the cases I see are in consultation. * * * A few days ago, however, a lady presented herself upon whom I did trachelorrhaphy about two years ago for a bi-lateral laceration.

"She had at that time two children, both born without the use of the forceps.

"3rd, I have never had troublesome hemorrhage *in nor after* any of my operations, and so far as my memory serves me, never pelvic cellulitis in any case."

DISCUSSION.

Dr. Gordon, of Maine:

Mr. Chairman:—There are two or three points in this paper which I wish to endorse most heartily. I have made the operation about 175 times. I have made it where I have no doubt Dr. Emmet would say it ought not to be made; I have no doubt that I have made it where a great many would say it ought not to be made. But I will say this, I believe that all the patients I have operated upon, which were in the bearable stage, at the stage in which they would bear children, have been just as liable to and have become as frequently impregnated after the operation as before. I believe it conduces to fertility rather than to sterility. I believe that the operation is important for two things—not only for the symptoms that we usually operate for (backache, pain in the hips, and the usual train of symptoms that everybody admits we should operate for), but by far the most important thing is to reduce hyperplasia of the uterus. I go further than that. I not only make an operation where there is a laceration, but in all cases of hyperplasia of the uterus I take a V-shaped piece out of each side. I have made the operation and taken out the V-shaped piece from the cervix for hyperplasia, where there was no laceration. The trouble is, we do not do enough in making this operation. In the first place, your scissors should be sharp enough that with one cut you take a complete piece off of each side. I believe the man who makes more than one cut on each side, in making an operation for lacerated cervix, for each particular side which he denudes, makes a mistake. The great trouble is with the ragged edges that are left. We are too much afraid about cutting out enough.

While I am in a sense a general practitioner, I avoid obstetrics as much as possible. A man who has not anything better to do than to sit up nights and attend to labor cases, has very little, comparatively, to do, after he has been in practice twenty-eight years, as I have been, and consequently

I avoid every case that I possibly can. Yet I have had an opportunity to follow up several cases where pregnancy has occurred, and in but one single case has there been re-laceration, and that was upon the left side in a bi-lateral case. The labor was just as easy, the patient acknowledged, as she had had in either of her previous labors. So I believe that if this operation is done as it should be done, you get no more interference with the labor than if there had been no laceration at all; and I believe that in the operation, where there has been an existing hyperplasia for any length of time, the patient, on account of that operation, shows an easier labor.

Dr. Woodward, of Vermont:

Mr. Chairman:—I wish to call the attention of the Society to one point in this operation which I think is very important. It is this: I think myself the only danger resulting from the operation is cellulitis or peritonitis, endorsing all the other propositions that have been brought before the Society. We sometimes find there is more or less tenderness in the cellular tissues about the uterus, and I generally leave the uterus alone. I do not draw the uterus toward the vulva. I believe it is an almost universal custom to draw the cervix toward the vulva, but I find where there is any tenderness about the cervix it is best to leave the uterus alone, and I have good results in following that rule. I believe that as a rule it would be well to follow it to obviate the tendency or danger of cellulitis. I have adopted it in performing about sixty operations.

Dr. Harvey, of Indianapolis, Ind.:

Mr. Chairman:—I want to address myself to one point in the paper, and that is in regard to this operation being performed oftentimes when it should not be. I want to differ with the views which have been expressed on that point. If laceration of the cervix exists it should be repaired. That is a point that I want to make. If there is some other disease of the uterus which causes dilatation of the os uteri, that is not laceration; and if gentlemen make mistakes and operate where laceration does not exist, the operation is not to be censured for such mistakes. Why should the uterus be permitted to remain in a state of slight laceration any more than any other organ in the body? Suppose the angle of the eye were torn, is there any surgeon who would not advise some operation for relief? So if the nose were torn. Instead of backing down in regard to this operation, as Dr. Emmet and others have done, and admitting that it has been resorted to too much, even by skillful operators, I say that it has been too much neglected. Even in mild cases, where gentlemen say it should not be performed, but the case treated by cauterization, there the beneficial effects have been shown. There you can cure the case before hypertrophy of the mucous membrane takes place.

I have seen four cases, within the last year, of the cervix where I could trace distinct forms of laceration described by Emmet, not deep, not bi-lateral, where both lips have been torn out; but in stellated form. Therefore I say that we should operate in every case, and in doing so we are honest both to our patients

and to ourselves. You take a case of laceration. How do you cure it? With hot water and cauterization, and in six months the doctor thinks the patient is well, and the patient thinks she is well, whereas in three or four months she goes back again, while in one hour's time, by a slight operation, he could have cured her permanently. I think, gentlemen, there is no one operation that has been performed, that has done so much to relieve suffering woman as this which—I agree with Dr. Johnson in terming—"Emmet's operation."

Dr. Englemann, of Missouri:

Mr. Chairman:—I think we are indebted to Dr. Johnson for so thoroughly analyzing this operation. I think it is the most wonderful of all gynecological operations. I do not think it matters whether we repair the laceration of the cervix, but all the results which come from that, both local and general, we must relieve. I do not see why it should be necessary to operate upon a lacerated cervix simply because it is lacerated. There are some cases of laceration of the perinæum which we do not operate upon, and there are cases of similar laceration of the cervix that we do not operate upon. We simply relieve the symptoms caused by it. There are large lacerations which do not affect the system at all. You have all seen patients with a large torn cervix who are in no wise ailing, and yet there are some with a slight laceration who suffer much. I see no reason why we should operate upon a lacerated cervix unless there are symptoms shown. It is not the surgical union, the surgical result, which measures the benefit accomplished, but it is the important benefit in the local and general condition of the patient, and for that reason I say it is a most wonderful operation—closing that small laceration will change the appearance of affairs completely. I do not believe there is any other operation on any other part of the body which will so thoroughly affect the system, and it is by that we measure the results—not by the union or by the local results. When I say that it is not the local condition which tells us whether we should operate or not, I mean it is not the laceration which forces us to operate, but the symptoms.

Dr. Quimby, of New Jersey:

Mr. Chairman:—Just a word in reference to the effect of the operation on pregnancy. I have had one or two cases where women became pregnant after the operation who would advance to the third or fourth month and miscarry. I have laid each of those cases to the condition of the cervix, and somewhat, I thought, to the operation. How much that is the experience of others I do not know.

In reference to the operation, I hold (and I have examined over two thousand cases which have given me some experience in the treatment of that trouble), where there is no trouble, no constitutional symptoms, when the patient appears to be in good health, where the uterus appears to be normal, with the exception of this laceration, (especially if it be slight,) I deem the operation improper, simply because it seems to be a species of meddlesomeness—an operation which does not seem to have a cause or a motive. Now I hold that all operations are for the benefit of the pa-

tient, and if the patient is not seemingly suffering from the laceration, the operation is not called for.

Dr. King, of Sedalia, Mo.:

Mr. Chairman and Gentlemen of the Section:—I heartily endorse and concur in the general sentiments of the paper and the points made. I do not think that the gentleman who read the paper made a single point that was not a good one, and I wish also to concur in the sentiments of Dr. Harvey, of Indianapolis. If it is true, as laid down by Emmet, that epithelioma is caused by laceration of the uterus, when a woman is threatened with this disease, why not cure that which lays at the foundation for it! Now, I have seen in my experience five cases of epithelioma, which were based upon the laceration of the cervix. I am in a country town in the west, and a woman in a country town in the west who submits to any surgical operation of this kind, is a pioneer in the profession as well as the surgeon who performs the operation. I have done the operation five times in the last year. I have seen the operation performed many times that number. All of them have recovered without cellulitis or peritonitis, and all of them have borne children. The statistics are meagre but the percentage is good. (Applause.)

Dr. Wathen, of Kentucky.

Mr. Chairman:—I wish to correct the statement of Dr. Gordon in giving Dr. Emmet as authority that laceration of the cervix is the sole cause of epithelioma of the cervix. No such inference can be drawn from Dr. Emmet's contributions to medical literature, nor do I suppose that any one who has seen many cases of epithelioma of the cervix would believe lacerations to be the sole cause, since we have cases of this character in women who have never borne children.

Dr. Gordon. How many?

Dr. Wathen. I do not know how many, but I have seen several, and I know that they have not borne children. And I cannot concur in the opinion of Dr. Harvey that in all cases where there has been a laceration, trachelorrhaphy should be performed for the purpose of preventing epithelioma. If epithelioma be developed in the neck of the uterus as a result of laceration, it is because there is some local disturbance constantly acting as an irritant, or because there has been an effort at repair which has imperfectly filled the lacerated gap with cicatricial tissue of a low order of vitality—there is a mal-nutrition of the part—but if these conditions exist sufficient to cause epithelioma, then we would have local symptoms which would indicate the necessity of this operation.

In nearly every case of harmful laceration there is hyperplasia of the uterus, and in all cases where we are justified in operating to prevent epithelioma of the cervix, there are symptoms manifesting themselves that are easily observed.

Dr. Reamy, (having temporarily vacated the chair):

I will only take a few minutes. It is in reference to one point that I desire to speak. The paper is upon the results of the operation. If the operation results in preventing cancer, that is one of the most important results. Now, I belong to those who be-

lieve that the operation ought to be done where the laceration is perceptible to the examination. I do not mean by this the laceration that converts the virgin os into the parous os, making a lip in front and a lip behind; but I believe with those who have claimed that every laceration that is perceptible, that amounts to a slit, ought to be closed, and ought to be closed without waiting for the symptoms.

If you can do a little operation so that a case of laceration will not become a case of cancer; if you can add one mite to the preventive measure in this direction, it ought to be done,—if for no other reason, it should be done solely on that account. The great Emmet (for no man admires his learning and skill more than I), has recently—I know not why—been going back on some of his most brilliant operations. I endorse the statement that it is too often done, but where there is laceration it is not done too often! (Applause.)

Brief remarks were also made—

By Dr. Nash, of Norfolk, Virginia, who endorsed the operation described by Dr. Gordon;—

By Dr. Moses, of St. Louis, Missouri, who stated that he differed with the views expressed by Dr. Engelmann, and believed that the operation ought to be more frequently performed for the actual damage to the cervix than for the general symptoms alone, or, certainly, quite as much so;—

By Dr. Eastman, of Maryland, who stated that he did not believe the operation should be performed in every case of laceration, and expressed the opinion that, in such an event, the gynecologists would run all the surgeons out of the country;—

By Dr. Kellogg, of Michigan, who stated that he had operated on about one hundred cases, in three or four of which the patients suffered painful menstruation after the operation, which they had not suffered previously thereto; and stated that, in one of the last-mentioned cases, the patient had suffered from severe dysmenorrhœa before marriage;—

By Dr. Hawse, of Missouri, who stated that he did not believe the operation should be performed in every case of laceration; and

By Dr. Dudley, of Chicago, who differed with the opinion expressed by Dr. Engelmann; and stated in corroboration of the assertion made by Dr. King, that he had heard Dr. Emmet make the statement that he (Emmet) did not believe any case of epithelioma started without some primary laceration, and that he (Emmet) doubted the cases of epithelioma reported as having started without laceration.

Dr. Johnson (in reply):

I am exceedingly obliged to the gentlemen of the Section for the kind reception of my paper. Its views have been more generally endorsed than I expected.

With regard to the suggestion of Dr. Gordon, that the operation should be done with one clip of the scissors, I think it would be a most excellent plan to operate in this way if there were scissors that were capable of making that one clip successfully. The only ones I know that are capable of doing that, are the scissors invented by Dr. Skene, of Brooklyn, with which he claims to be able to make the denudation

and finish the operation in ten or fifteen minutes. But no one has yet been able to acquire the dexterity which he possesses in the use of that instrument, even.

In cases of cellulitis, the operation should either be postponed until the chronic cellulitis is entirely cured, or, if any reason exist for operating at once, the uterus should not be drawn down, for fear of exciting a fresh attack, but do as Dr. Woodward suggested. But the operation is very much more difficult in cases where the uterus is not drawn down, as it is almost impossible to get at it in such a shape as to insert the stitches properly.

As to the remarks of Dr. Harvey and Dr. Reamy, in regard to sewing up all cases of slight ruptures of the cervix that are unaccompanied by any symptoms which demand relief, I cannot see that the patient could be properly or justly subjected to the risks which I have pointed out as occasionally accompanying the operation, when she is in a condition of apparent health, having no symptoms of any malady whatever. Those gentlemen recommend the operation for cases of slight laceration unaccompanied by symptoms, to prevent the development of symptoms hereafter, and to prevent, also, the development of cancer. The point I make is, that, if there are symptoms leading to the belief, in any way, that cancer is likely to occur from anything whatever which may be present at the time or from any hereditary influences, it would be a proper operation to perform, even if there were no symptoms. But as many women "get on" with a laceration, very well, and menstruate properly; have no distressing leucorrhœa or backache or other disagreeable symptoms; not being aware, themselves, that they have a laceration;—in those cases, I should say that there is no need whatever of performing it, but to await developments; and when symptoms do arise that indicate the necessity for aid, I render that aid.

Dr. Quimby had reported several cases of abortion occurring after the operation had been made. Those were the result of his experience, but the results of those who have had a very much larger experience, and of those who have written on the operation, making up what we have of the literature on the question, show distinctly that abortion is very much more likely to occur before the operation than afterwards; that the operation is performed particularly for the cure of the habitual abortion into which the woman goes; and one of the best effects of this operation is to cure the habit of abortion.

The case reported by Dr. Kellogg, as I understand it, was one in which the patient suffered great dysmenorrhœa pains even before her marriage, and that her dysmenorrhœa could not be attributed to the operation or to its effects, in any way, because she had the pain before she was married and it returned subsequent to her having had children. It appears to me, therefore, that it had no connection whatever with the operation or the mode of performing it. [Applause.]

Dr. Kellogg: The patient had the pain before marriage, but had no pain after laceration. After the laceration was cured, the pain returned,

NOTE.

Since this paper was read (May 6, '84), Dr. Murphy has published an article in the June number of the *American Journal of Obstetrics*, p. 623, in which he says that "A year's consideration of the points raised by me, together with the digest of current literature, only strengthens the conviction which has created so much earnest discussion." I suppose he means by this that the conclusions arrived at in his first paper are made stronger and more convincing in his second effort.

It is somewhat curious that in the same number of the journal in which his first paper appeared, there was published a discussion in the New York Obstetrical Society which refuted all the points he made. It is a remarkable coincidence that in the June issue of the *American Journal of Obstetrics*, in which Dr. M. solaces himself that his "thesis is proven," there is a very exhaustive and able paper by Dr. B. Hughes Wells, in which the points made in Murphy's "thesis" are shown to be very badly taken and erroneous. I might very safely leave the subject here, but as the Dr. made some sharp allusion to my views, I desire to briefly refer to one or two of his points. The Dr. says: "It is also conceded that lacerations more or less extensive, occur in thirty per cent. of women delivered at full term." Further on he introduces the records of the hospital of which he is the surgeon in charge, compiled by his assistant, which shows that "out of 175 lying-in patients examined after normal labor, about three weeks following delivery, 84 had the cervix uteri intact and 91 had well marked cervical laceration more or less extensive."

It is not clear from the context why this compilation from his hospital records, from May 15, 1882, to March 20, 1884, was introduced. It only shows the small number of confinements, and that the frequency of the lesion is nearly twice as great in his hands as in those of the average accoucheur, which he concedes is only thirty per cent.

He says, p. 624-25, "The new tissue is inelastic. If pregnancy follow, there will be subsequent laceration, owing to the non-yielding of the tissue." I have, I think, proven that this view is a mistaken one. The perusal of the cases quoted by Dr. M. furnishes several illustrations in support of my statements, and in contradiction of his conclusions, to wit, that sterility was not produced by trachelorrhaphy, many of the patients referred to having borne children after normal labors, and there was no relaceration.

Wells, in the article referred to in same journal, says, after a thorough discussion of these points, p. 577: "We must admit that trachelorrhaphy does not in the least diminish the fecundity of the women operated on. Moreover, when we take into account the number of abortions, the tendency to which all admit to be much increased by the lacerated and irritable state of the cervix, it is obvious that the operation materially swells the number of births at term, not only by enlarging the number of

conceptions, but also by lessening the number of abortions, so that we may safely say that *Emmet's operation increases the fertility of those on whom it is performed.*"

This is still more conclusive: "Of the seventy-seven cases where the condition of the cervix was noted after labor, sixty-two, or eighty per cent. were not lacerated, while of the remaining fifteen, eight were but slightly torn. Considering that in many cases the same conditions would be present that were present in the previous labors, we could not ask or wish for a more brilliant result than is here shown."

The paper of Dr. Wells being the late publication on this subject in which these points are discussed, I may be pardoned, I hope, for adding the last five conclusions which his extensive study of the subject brings him to formulate:

- 1st. Trachelorrhaphy does not cause sterility.
- 2d. On the contrary, it causes a decided increase

in the productive fertility of the subjects of the operation.

3d. After the operation there is even less liability to subsequent cervical laceration than there was at first.

4th. There is no danger of anything like serious obstruction to subsequent labors by the cicatricial tissue formed in the cervix.

5th. There is very little danger of producing stenosis of the cervical canal except through inexcusable carelessness.

And again, Dr. B. F. Baer, whom Murphy chiefly relies upon to sustain his theories of a "resultant sterility," really "looks upon the sterility following Emmet's operation as not due to the operation itself, but to the pathological conditions which existed with the laceration, and which were frequently not relieved." P. 629, *Am. Jour. Obstetrics*, June, 1884.

